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ABSTRACT

Activities that allow infants to investigate their own environments are suggested in this disucssion of science and its relationship to cognitive development. Emphasis is placed on the infant's own manipulation of wet and dry materials such as: bathwater, food, boxes, pockets, magazines and balls, all of which are readily available in most homes. (DP)

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INFANCY AND SCIENCE, *MELBA RABINOWITZ, CHAIRMAN

PRESENTATION: "INFANTS LEARN THROUGH DRY MATERIALS"

Audrey Anderson, Family Educator Specialist, Infant Program....(Session I)
Olivia Hayes, Family Educator Specialist, Toddler Program.....(Session III)

"INFANTS LEARN THROUGH WET MATERIALS"

Margie Robinson, Family Educator Specialist, Infants, Home Visit...(Session I)
Merci Horacasitas, Toddler Teacher, University Cooperative.....(Session III)
Ester Randall, Family Educator Specialist, Toddler, Home Visit.....(Session I)
Edna Bruno, Family Educator, Infants, Home Visit.....(Session III)

DEVELOPMENT OF MATERIALS::

These materials were made and collected by the students enrolled in Curriculum Development for Infants, Delgado Junior College, Spring, 1973. Persons enrolled in this course, other than those listed above are: Hattie Edwards, Home Visit, Infants, Amy Gair, Home Visit, Infants, Rose Myles, Center, Infants, Barbara Robertson, Center Infants, Katie Wilson, Center Infants.

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All persons with the exception of Mrs. Horacasitas are members of the Educational Staff at the New Orleans Parent Child Developmental Center, 3300 Freret Street.

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INFANTS ARE BORN SCIENTISTS.....

AND THEIR LABORATORY IS YOUR KITCHEN, LIVENG ROOM AND DINING ROOM.

A scientist is a person who investigates, obtains knowledge through study, practice and discovery. Anyone who has watched infants examining and manipulating objects can only have respect for the intensity of the study. As infants learn to crawl and walk, there is more and more acting upon objects.

The cooky is flung over the side of the high chair.....first with a solid heavy thud to the floor; then pitched with a tilted curve so that it rolls and finally settles under the refrigerator; then....broken in half.....one half over the head and one half in the mouth. Does a half cooky make as much "thump" as a whole cooky when contacting the floor?

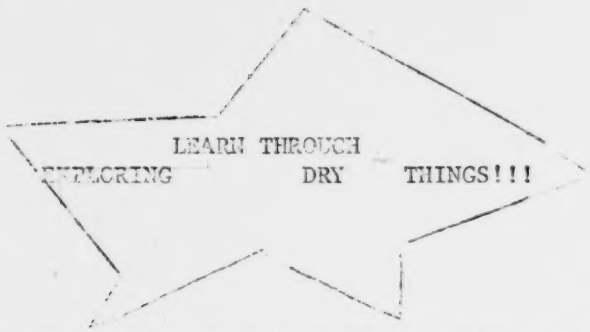
Ask the scientist.....How about another experiment? Break the cooky into small pieces...rub it together between your hands until it becomes tiny, flour particles and then blow it lightly. You're right! Small pieces of cooky dust flutter to the floor more lightly than does a whole cooky flung over the side. Much like Galileo and Newton began their experiments with gravity do our modern infants explore the many novel things that surround them!

Likewise, applesauce, when made very thin with salive, has a better consistency for spreading over the tray than the same substance handed neatly to one on a spoon before blending begins.

As a matter of fact, so systematic is the infant's investigation of his environment that psychologists have suggested that all of these behaviors are necessary to promote an effective, competent understanding of the environment. Furthermore, Piaget believes that these basic sensori-motor type experiences during the first two years of life are the basis for all knowledge. Through these exploratory activities - however simple they seem- infants now - as YOU did - slowly develop cognitive structures and attitudes which represent the nature of the world.

On the next pages, are some ideas for experiences for infants which will aid in their S C I E N C I N G.....

INFANTS



SOME DRY ACTIVITIES PARENTS CAN PROVIDE FOR BABIES AND TODDLERS ARE:

HOUSEHOLD OBJECTS &
CARRAGE.....

TOY BOXES &
TOY POCKETS....

CANS, TOWELS &
BOWLS.....

BOOKS, MAGAZINES,
LETTERS & CIRCULARS...

EXERCISERS, BALLS &
MUSCLE GAMES.....

Babies learn through activity.

All the following suggested activities are things READILY AVAILABLE in most homes.

NOT.....F A N C Y.....S T O R E B O U G H T.....

things.....but things that PROVIDE CHILDREN WITH VARIETY!!!.....

NOT.....E X P E N S I V E.....things...

HOUSEHOLD OBJECTS: Babies have a natural drive for being curious. Household items such as pans, pots, spatulas, spoons and forks provide for this activity as does brushes, combs, telephones (pretend or real), washcloths, sponges, mommy's shoes, purse. These experiences provide an understanding of how things work - what they are for - and what things go together.

For example: One 18 month old will get out potatoes and pan and pretend to cook potatoes - or a skillet and golf balls and pretend to make eggs, stirring with a spoon, etc. Such opportunity for practice enhances the child's cognitive development.

Babies gain a feeling of satisfaction, independence in being able to make choices about playthings. This means that mother should put unsafe objects out of reach or put rubber bands on cabinet knobs, rather than continually run after baby to keep him out of things.

Learning is a function of common household objects, and being able to use them appropriately is one of the most important aspects of intelligence.

GARBAGE BAG: About six months of age is when infants begin pulling down things such as ash trays, what-nots and garbage can contents. Parents can encourage this curiosity by substituting safe, appropriate cans and placing them in paper bag with milk containers, paper, cereal boxes, etc. An inexpensive plastic waste basket may be used. This gives baby his own garbage bag to enjoy.

One reason infant enjoys garbage is because it is always different and novel, depending on the local menu. Discard baby's garbage as frequently and regularly as you do your own. Build a new supply each week.

Watch to see how many things baby can learn: SHAPES....TEXTURES..... THINGS WHICH ROLL...STACK...FIT INSIDE EACH OTHER.....LABELS AND SIGNS ON BOXES.....

TOY BOX: A toy box from inexpensive wood or cardboard (the kind sold with lids) makes an excellent place for the child's belongings. It belongs to him...It enhances his ideas about who he is...what things belong to him. He should have priority over its contents.

A personal toy box aids the child's sense of order; he will learn that toys and objects belong in the box.....not under the bed or under the sofa.

It allows freedom of play for the child....this enables him to explore without one worrying if he is getting into the wrong thing. However, contents of the toy box must be changed frequently or the child will lose interest.

The toy box is not a trash box and should not be used for dumping in junk, broken toys, cleaning up the house before company arrives. DO USE IT FOR a container that the child can dump things from, fill again, put lid on or hide himself in.

TOY POCKET: A toy pocket is a set of pockets designed after the shoe bag that has many pockets. The pockets provide for a variety of toys which keeps the child interested and amused.

Children enjoy searching and reaching into pockets, taking things out, handling, returning,even hiding toys from themselves and others.

The toy bag can be used as storage for small objects - which are often lost or fall out of the crib - tiny trucks and cars, cans, balls, etc.

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It is movable, can be hung or tied to the crib, hung on doors - can even be rolled up and taken with toys inside pockets along with the child on a visit or trip.

Pockets should be made of colorful material - of different textures such as satin, felt, corduroy - some should have flaps, even buttons or snaps for the older child; and pockets should be different sizes, thus holding different amounts or sizes of toys. They can also be different shapes such as squares, circles or triangles.

STACKING AND NESTING CANS: This self-correcting game can be used with small infants and can be made more complicated by adding more cans... so that it remains interesting to the preschooler. They promote eye, hand coordination, hiding activities which teach object permanence, and cause baby to focus on size and shape relationships. Also try different size containers with matching lids.

Knocking down and building up is also another activity which provides child with release and control of feelings.

COFFEE CANS AND CANISTERS: Coffee cans with slits (for poker chips), holes for small plastic balls, square, etc., focuses child's attention or shape, what size fits into what hole. Children also get pleasure from the noise of contents and taking off and replacing lids.

MOBILES, MIRRORS, PICTURES AND MITTENS: Very young infants explore with their eyes. Providing pictures in the crib and mobiles over their heads develops visual development; inexpensive mobiles can be replaced frequently; whereas, bought ones are seldom replaced.

Mittens for young infants aid visual development. Mirrors aid concept of self and is an ever changing toy, depending on the reflection.

BOOKS, MAGAZINES, LETTERS AND ADVERTISEMENT CIRCULARS: Homemade, domestic items such as cloth, pictures copied from coloring books, - colored and ironed under wax paper - enables the child to have pictures of familiar things. Magazines, letters, etc. provide variety and novelty which is important to baby.

Hard-paged baby books of familiar objects aid baby in focusing on pictures of objects as well as real objects.....an important prerequisite to understanding pictures and the written word.

MUSCLE EXERCISER, BALLS AND MUSCLE GAMES: Small balls, plastic golf balls, carnival balls, rubber balls, provides stimulation for muscle play, provide baby with "a bunch" - several. He will be delighted!

Muscle exerciser made from colorful bracelets, heavy elastic and a strong curtain rod, then placed across the crib, provides additional hand-eye coordination and muscle development. This is appropriate for infant from around 4 to 8 months.

(Written by Melba Rabinowitz, April 1973. Can be reprinted without permission of author as long as acknowledgement is given).

I N F A N T S L E A R N....."

THROUGH EXPLORING W E T T H I N G S!

SOME WET ACTIVITIES PARENTS CAN PROVIDE FOR BABIES INCLUDE:

F O O D

W A T E R P L A Y

F I N G E R P A I N T I N G

Babies learn through play. Creative, messy activities for your infant means giving him a way to keep happy and busy - at the same time you provide him an opportunity to learn about his world.

Using different materials and textures, while explaining them to your baby, helps him develop concepts of objects and their properties.

> "This is the same object or thing, even though it is smeared all over the tray instead of in the bowl."
>
> or
>
> "Some things roll, like cereal; others squash and run over your arm."
>
> or
>
> "The water ran out the hole through the pipes. Now, where did the water go?"

Messy play with water and food, such as pudding, applesauce, peaches, etc., is relaxing and pleasurable, as well as a learning experience to your child

Food is a simple, everyday experience that gives the child an opportunity to experience many textures - wet, dry, hard, squashy, sticky, messy, gooey, soft, crumbly. Infants learn that

even though a cooky changes its shape (and becomes crumbs), it still tastes the same and must be the same cooky. This is an important underlying intellectual concept - that something has the same properties in terms of texture and taste, even though the shape is different.

You might ask, "Do I have to let my child mess in his food all the time?" Answer: NO - but try it often. Put an undershirt or washable clothing or a bib on him; spread papers on the floor and watch how much he enjoys experiencing these textures.

Waterplay is a relaxing activity that baby enjoys as many times a day as you can provide it. With summer weather, baby will be cooler and sleep better if he has an opportunity to play in water three or four times a day - whether in the bath tub, kitchen sink, outside pool or with the hose. Little containers, sponges and floating balls give him added experience with pouring, squashing, and floating balls give him added experience with pouring, squashing, and floating and sinking objects.

Fingerpainting (with eggwhites). Beat eggwhites until stiff; add a little sugar and food coloring (you can leave out food coloring if you desire). Let baby paint in his high chair or on some plastic spread over the floor. This groovy and messy activity occupies baby while giving him rhythmic, creative experience. He learns "my hands are extensions of me and they can make movements."